

REMARKS

Claims 1-8 are pending in the application. Claims 5-8 have been withdrawn from consideration. Claims 1-4 have been rejected. Claims 1-4 are now amended. Claim 9 is new.

Applicant's attorney acknowledges the telephonic interview with Patent Examiner Moslehi and Supervisory Patent Examiner Follansbee that took place on December 22, 2003. In the interview, the cited references ("Native ATM Support for CORBA Platforms", hereinafter referred to as Puder and "Web-based Customer Network Management", hereinafter referred to as Park) were discussed generally in connection with rejected Claim 1. Claims 1-4 are amended herein in accordance with that discussion.

The claims as originally filed were restricted into two groups: Group I (claims 1-4) and Group II (claims 5-8). The election of Group I is affirmed without traverse.

The Examiner rejected claims 1 and 2 under 35 USC 102(a) as being anticipated by Puder. Claims 3 and 4 were rejected under 35 USC 103(a) as being unpatentable over Puder in view of Park. The rejections are respectfully traversed.

In traditional telecommunications equipment, the internal management information of a network element is usually made available through an SNMP interface, a command-line interface (e.g., TTY or telnet) or a specialized (and often proprietary) protocol. The network element is typically managed only by its associated element management system. This approach makes it difficult to share management information from the network element across the different operations support systems (OSSs) that might already be in place in the public switched telephone network. When such sharing is necessary, it is generally done by providing a special communications link between the element manager and a specific operations support system. This approach is limiting because the interface at the network element may not have provided the information required by the legacy OSS. In addition, the element manager then must always be active for the OSS to operate. This reduces the reliability of the resulting network because the element manager is typically an ordinary PC or UNIX-based, desktop workstation rather than a high-reliability network element. This often means that costly development work is needed in the element manager, the OSS, and the network element itself to provide this capability.

The present invention is directed to an approach that alleviates these problems. Rather than build the managed objects in the network element using a proprietary scheme, a

management subsystem in the network element is built around a CORBA (Common Object Request Broker Architecture) server at its core. That is, the CORBA server is a component of the network element or “managed system” rather than as part of the “managing system”.

An embodiment in relation to a network element referred to as CPA 42 is shown in FIG. 28. All of the managed objects are written as CORBA objects and so all of the capabilities of the network element are available through a CORBA interface. FIG. 28 shows the CORBA server 386 as part of the network element CPA 42. Managing systems shown in FIG. 28 include SNMP Manager 56B and carrier operation systems 397.

There are several advantages of the CORBA-based configuration. For example, by basing the internal management scheme on CORBA, instead of raw memory, it is very easy to add new protocols as CORBA clients, such as the BellCORE TL1 protocol, if desired to inter-operate with OSSs. Another advantage is that if the element manager should be turned off or fail for some reason, the other OSSs can still communicate with the CPA directly, thereby leading to greater overall system reliability and availability.

① { Puder describes modifications to the CORBA interfaces (GIOP, IIOP) that are need to use it over an ATM transport network as well as a protocol that allows this to work. However, the present invention is not directed to using CORBA over ATM nor is it directed to making modifications to the CORBA interfaces. Puder does not show or describe a “network element” as it relates to being part of a managed system, nor does it discuss network management or element management. Thus, Puder is inapplicable to claims 1-4 and 9, as amended.

Park assumes the CORBA components are a part of the Managing System, not the Managed System as is clearly shown in Park, page 164, Figure 5. That is, the CORBA components are shown as part of the “Managing System Domain” rather than as part of the “Managed System Domain” in Figure 5 of Park. However, there is no teaching or suggestion regarding use of CORBA in a Managed System.

② { Thus, neither Puder alone or taken together with Park teach or suggest a managed network element in a telecommunications network of network elements and management systems for managing the network elements, that includes a CORBA-based server; plural CORBA-based managed objects accessible by the CORBA-based server; and a CORBA-based applications programming interface coupled to the CORBA-based server, as recited in amended

claim 1. Claims 2-4 have been amended consistent with the amendment to claim 1.

Reconsideration of the rejections is respectfully requested.

Dependent claim 9 is new and is directed to an embedded operations channel agent / GR-303 managed objects feature of the invention. Support for new claim 9 is found at least in FIG. 28 and at page 64, lines 1-10 of the specification as originally filed.

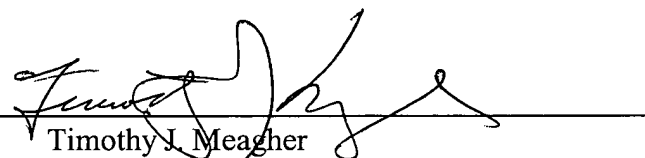
CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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